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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
09/919,584	07/30/2001	Peter W.J. Jones	TBRX-P01-001	2595	
28120 7	590 07/29/2003				
ROPES & GRAY LLP			EXAMINER		
ONE INTERN BOSTON, MA	ATIONAL PLACE 02110-2624		HAVAN, TI	HAVAN, THU THAO	
			ART UNIT	PAPER NUMBER	
			2672	2/	
			DATE MAILED: 07/29/2003	X	

Please find below and/or attached an Office communication concerning this application or proceeding.

	Applicati	on No.	Applicant(s)					
. ,	09/919,5	84	JONES ET AL.	\mathcal{M}				
Office Action Summary	Examine	r	Art Unit	73				
·	Thu-Thac	Havan	2672					
The MAILING DATE of this communication appears on the cover sheet with the correspondence address Period for Reply								
A SHORTENED STATUTORY PERIOD FOR R THE MAILING DATE OF THIS COMMUNICATI - Extensions of time may be available under the provisions of 37 C after SIX (6) MONTHS from the mailing date of this communicatic - If the period for reply specified above is less than thirty (30) days, - If NO period for reply is specified above, the maximum statutory p - Failure to reply within the set or extended period for reply will, by - Any reply received by the Office later than three months after the earned patent term adjustment. See 37 CFR 1.704(b). Status	ON. FR 1.136(a). In no evon. , a reply within the state or will apply and wistatute, cause the appropriate or cause the appropriate.	rent, however, may a tutory minimum of th vill expire SIX (6) MC olication to become A	reply be timely filed irty (30) days will be considered timely NTHS from the mailing date of this co	/. mmunication.				
1) Responsive to communication(s) filed on	n <u>30 July 2001</u> .		·					
2a)☐ This action is FINAL . 2b)⊠	This action is	non-final.						
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213. Disposition of Claims								
4) \boxtimes Claim(s) <u>1-24</u> is/are pending in the applic	cation.							
4a) Of the above claim(s) is/are withdrawn from consideration.								
5) Claim(s) is/are allowed.								
6)⊠ Claim(s) <u>1-24</u> is/are rejected.	Claim(s) <u>1-24</u> is/are rejected.							
7) Claim(s) is/are objected to.								
8) Claim(s) are subject to restriction a	and/or election r	equirement.						
Application Papers								
9)☐ The specification is objected to by the Examiner.								
10) ☐ The drawing(s) filed on is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.								
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).								
11) The proposed drawing correction filed on is: a) approved b) disapproved by the Examiner.								
If approved, corrected drawings are required in reply to this Office action.								
12) The oath or declaration is objected to by the Examiner.								
Priority under 35 U.S.C. §§ 119 and 120								
13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).								
a) ☐ All b) ☐ Some * c) ☐ None of:								
 Certified copies of the priority document 	ments have bee	en received.						
2. Certified copies of the priority documents have been received in Application No								
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received. 								
14)☐ Acknowledgment is made of a claim for dor	mestic priority u	inder 35 U.S.C	c. § 119(e) (to a provisional	application).				
a) ☐ The translation of the foreign languag 15)☐ Acknowledgment is made of a claim for do								
Attachment(s)								
 Notice of References Cited (PTO-892) Notice of Draftsperson's Patent Drawing Review (PTO-94-3) Information Disclosure Statement(s) (PTO-1449) Paper N 			v Summary (PTO-413) Paper No(f Informal Patent Application (PTC					
J.S. Patent and Trademark Office PTO-326 (Rev. 04-01) Offi	ce Action Summa	ry	Part of Paper No. 8					

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DETAILED ACTION

Drawings

1. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Claim Rejections - 35 USC § 103

- 2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 3. Claims **1-24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Young et al. (US patent no. 5,682,180) in view of Havel (US patent no. 6,018,237).

Re claim 1, Young teaches a method that gives the perception of a display with a full range of color from a matrix of optical elements of a first or a second color (col. 1, lines 8-37), comprising providing a two-color display of optical elements of a first color and a second color and being arranged in an alternating pattern (col. 5, line 57 to col. 6, line 44), and translating the relative brightness of the points created by the full color display into a corresponding brightness for the respective points on the two-color display (col. 8, lines 12-58). In other words, Young discloses electronic color displays, including CRTs and flat-panel color displays particularly displays based on the opponent color vector phenomenon, including two-element scanned and matrix-addressable color displays. He teaches a pattern other than checkerboard could be used for the polarizing

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elements of the combined neutral density/dichroic pair. For instance, alternating neutral density and dichroic stripes, either vertical or horizontal, could be used. Consequently, with the appropriate groupings of patterns and rotations, either white/black or orange/cyan colors can be produced. This is true for any pair of color combinations, where the pair is chosen in accord with the opponent color scheme. Furthermore, Young teaches an electronic display generates an image which, through substantial registry of two opponent vector images, is perceived as a full color image. The display receives two channels of information representing two opponent color vectors of an image to be displayed, develops two images in the two opponent color vectors, and superimposes the two images to generate the image which is perceived as a full color image.

Young fails to specifically disclose determining for an image presented on a full color display, the relative brightness for points of the image produced by the full color display as claimed. However, Havel teaches determining for an image presented on a full color display, the relative brightness for points of the image produced by the full color display (col. 1, line 65 to col. 3, line 11). Havel teaches variable 2-primary and 3-primary color converter for converting an input voltage to variable color which is capable of illuminating the display in any color of the spectrum, in accordance with the magnitude of the input voltage. He also teaches a variable color digital display system capable of displaying decimal numbers and integers in different brightness level of colors. Thus, it would have been obvious for one of ordinary skill in the art to combine determining for an image presented on a full color display, the relative brightness for

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points of the image produced by the full color display of Havel to the system of Young because it would have enabled illuminating the display in a selected one of several possible colors (<u>Havel: col. 2</u>, <u>lines 1-19</u>).

Re claims **2**, **6-7**, **and 14**, Young teaches translating includes mapping a three dimensional coordinate representative of the relative brightness of a point to a two dimensional point (<u>col. 8</u>, <u>lines 12-58</u>). Young teaches the dimension of the coordinates consisting of XYZ which are in three dimensional and can be in two dimensional too.

Re claims **3-5 and 15**, Young teaches a flashing period representative of a timing pattern for flashing the two-color display (<u>figs. 1a-1b</u>).

Re claims 8 and 16-19, Young teaches a noise signal and summing the noise signal with the relative brightness for the two-color of the first and/or the second color emitter (col. 3, lines 12-49). Young discloses green/magenta vector accounts for only 6% of the color. It is negative in the middle of the spectrum and positive at the extremes (the remaining 7% of the color variance is attributable to noise in the neural data).

Re claim **9**, Young teaches a video driver for driving a video display as a function of the translated relative brightness of points for a two-color display (<u>col.4</u>, <u>line 56 to col. 5</u>, <u>line12</u>). In other words, Young teaches the electronic data of a conventional video camera can readily be converted into the opponent color vectors. Conventional video cameras typically record three separate images of a scene, a red image, a green image, and a blue image, which represent traditional color theory images of the scene.

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Re claims **10-11 and 17**, Young teaches optical elements comprise light emitting diodes and filters (<u>col. 7</u>, <u>lines 26-52</u>). In other words, Young discloses a projection display using two flat-panel matrix-addressable filters.

Re claims **20-23**, Young teaches a border having a color that is the combination of the first and the second colors or the two color display and being arranged substantially around the periphery of the display (<u>figs. 1-2 and 5</u>).

Re claim **24**, Havel teaches led, lcd, crt, and light emitting polymer display (<u>figs.</u> 28 and 30).

Re claims **12-13**, the limitations of claims 12-13 are identical to claim 1 above. Therefore, claims 12-13 are treated the same as discussed with respect to claim 1 above.

Inquiries

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu-Thao Havan whose telephone number is (703) 308-7062. The examiner can normally be reached on Monday to Thursday from 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on (703) 305-4713.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

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Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Thu-Thao Havan Art Unit: 2672 July 27, 2003

> MICHAEL RAZAVI SUPERVISORY PATENT EXAMINER TECHNOLOGY CENTER 2600